



August 26, 2005

VIA ELECTRONIC FILING

Marlene H. Dortch
Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Ex Parte* Presentation in WT Docket No. 01-309 Section 68.4(a) of the
Commission's Rules Governing Hearing Aid Compatible Telephones

Dear Ms. Dortch:

On August 24, 2005, representatives from the Alliance for Telecommunications Industry Solutions ("ATIS") Incubator Solutions Program 4 dealing with Hearing Aid Compatibility issues ("AISP.4" or "HAC Incubator") met with representatives from the Federal Communications Commission's ("FCC") Wireless Telecommunications Bureau, Office of Engineering & Technology ("OET") and Chairman Martin's Office. The purpose of the meeting was to update the FCC on AISP.4's testing of wireless devices operating below 960 MHz ("Low Band") and to discuss AISP.4's recommendations, based on these results, for addressing challenges that affect Low Band devices.

This presentation was made on behalf of the AISP.4 Working Group 9, which was established earlier this year to evaluate technical issues affecting wireless devices operating in the Low Band. These issues were agreed to by the full AISP.4 at its August 23, 2005, meeting. Participants were:

Cingular Wireless, LLC
LGE
Motorola, Inc.
NEC America
Nextel Communications
Nokia
Research In Motion Limited

Samsung Telecommunications
America, LP
Sony Ericsson Mobile
Communications USA, Inc.
Sprint PCS
T-Mobile USA, Inc.

Wireless device and hearing aid testing recently performed by AISP.4 and others in the wireless industry demonstrate a need to establish a dedicated RF emission measurement limit for Low Band devices. AISP.4 re-confirmed through additional testing that there is no discernable difference in user experience between M1/M2-rated Low Band wireless devices and M3/M4-rated High Band wireless devices (those operating in the bands above 960 MHz). The data concludes that a 10 dB differential in emission limits between M3 High Band devices and M1 Low Band devices could be established without affecting the hearing aid consumers' experience using the wireless device.

While the adoption of a separate emission limit for Low Band wireless devices is a more complete solution to the challenges facing these devices, AISP.4 recommends two alternative/interim solutions.

As an interim solution to address technical issues facing GSM devices, AISP.4 recommends that the Commission accept the use of the High Band HAC rating as the overall rating for all GSM dual band wireless devices. Failure to permit the use of the High Band rating for these dual band devices will prevent GSM manufacturers and carriers using GSM air interface technology from meeting the September 16, 2005, HAC compliance deadline.

AISP.4 representatives noted there is a need to clarify C63.19-2005 with regard to the power level measurement method used during testing of the *iDEN* air interface. Annex C.3.1 and Tables 7.4 ("Telephone Near-Field Categories and Linear Units") and 7.5 ("Telephone Near-Field Categories and Logarithmic Units") of the standard specified that HAC testing should be done at "peak power." AISP.4, after consulting with C63 representatives, believes that the reference to "peak power" actually refers to "average peak power during the transmit interval", which is more predictive of hearing aid usability. During the meeting, Motorola indicated that the power level measurement may affect *iDEN* models, and use of the "peak power" measurement could result in inaccurate HAC ratings of one or more categorical steps.

A copy of the written presentation provided during this meeting is attached to this letter.

In attendance, representing the WTB were Angela Giancarlo, Associate Chief, Public Safety & Critical Infrastructure Division. In attendance, representing the OET were: Patrick Forster, Senior Engineer, Policy and Rules Division; Dr. Rashmi Doshi, Chief of the Laboratory Division; Martin Perrine, Electronic Engineer, Laboratory Division; and Fred Thomas, Chief of Staff. Representing the Chairman's Office was Fred Campbell, Legal Advisor for Wireless Issues for Chairman Martin.

The individuals representing the AISP.4-HAC were: Steve Coston, Technical Manager, Regulatory Project Office, Sony Ericsson Mobile Communications; Mel Frerking, Director of WTS, Cingular Wireless; Al Wieczorek, Distinguished Member of the Technical Staff, Motorola; David Dzumba, Senior Manager, Global Accessibility, Nokia; James Turner, Technical Coordinator, ATIS; Martha Ciske, Committee Administrator, ATIS; and Thomas Goode, Attorney, ATIS.

Pursuant to Section 1.1206(b)(2) of the Commission's rules, one copy of this letter is being filed electronically for inclusion in the public record of the above-referenced proceeding.

If there are any questions regarding this matter, please do not hesitate to contact the undersigned.

Sincerely,



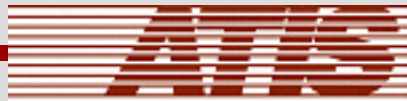
Thomas Goode
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Attachment

cc: Angela Giancarlo, Associate Chief, Public Safety & Critical Infrastructure
Division, WTB
Fred Campbell, Legal Advisor for Wireless Issues for Chairman Martin
Fred Thomas, Chief of Staff, OET
Patrick Forster, Senior Engineer, Policy and Rules Division, OET
Rashmi Doshi, Chief of the Laboratory Division, OET
Martin Perrine, Electronic Engineer, Laboratory Division, OET

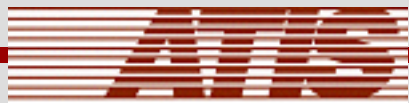
Report of the AISP.4-HAC on Technical Issues Pertaining to Low Band Wireless Device Compliance

August 24, 2005



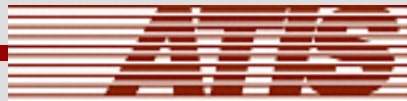
Agenda

- Short Term Needs
- Long Term and Technical Discussions
 - Data to Support Proposed C63.19 Enhancements
 - Alternative Enhanced Test Method
 - Method to Implement Enhancements



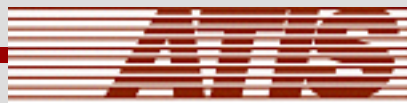
Short Term Needs

- Use M3 or higher rating for 1900 MHz band for all Dual Band wireless devices until the C63.19 Standard is updated
 - Dual Band wireless devices are those operating in both the bands below 960 MHz (Low Band) and in the bands above 960 MHz (1900 MHz or High Band)
- Use minimum of M1 rating for wireless devices operating in the Low Band but label as M3 until the C63.19 Standard is updated
 - M1/M2 rating in Low Band is comparable to M3/M4 rating at 1900 MHz based on objective testing
- Support the AISP.4 HAC efforts to update C63.19–2005 by reopening the standard due to public comments.
 - Could be accomplished by December 2005



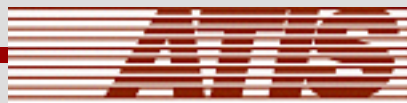
Test Data on Multiple Technologies

- All wireless technologies from 8 different manufactures tested:
 - 3 CDMA
 - 1 iDEN
 - 4 GSM
 - 2 TDMA
- 10 Hearing Aids
 - 6 BTE
 - 4 ITE
- Every phone tested against every hearing aid at 850 MHz and 1900 MHz
- Also performed AMPS test with TDMA and CDMA phones
- Multiple tests were performed on some of the phones



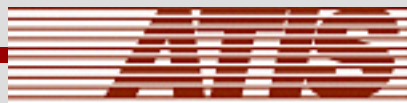
Summary of Test Data

- Interference differences between the bands apply across all technologies (GSM, iDEN, TDMA, CDMA, AMPS) for all wireless devices tested
- Interference in the 850 MHz band, for most combinations of hearing aids and wireless devices, was typically found to be similar or less than the 1900 MHz band
 - The 850 MHz wireless devices operated at 2 watts
 - The 1900 MHz wireless devices operated at 0.8 watts



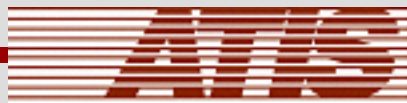
Band Difference Physics

- The difference in wavelengths between the two bands means that the same hearing aid will capture approximately 55% less energy at 850 MHz than at 1900 MHz
- Hearing Aid Microphones and T-Coils are generally more effective at providing immunity at lower frequencies than at higher frequencies
- Near field measurements are very sensitive to wavelength and spatial characteristics of the carrier



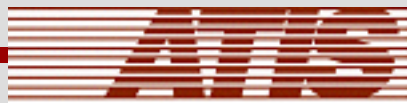
Frequency Band Differences

- Data from DELTA Labs indicates 10 dB or greater hearing aid immunity to emissions at Low Band than at High Band
- Data and physics show banding differences should apply across all technologies



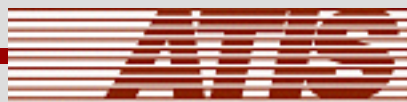
Data Supporting Banding

- Australian HA Immunity Standard AS MZS 10881.9-1995
- European Wireless Device Emission Standard IEC 60118-13
- Cingular Wireless Testing (2005)
- University of Oklahoma HA Subjective Validation Study Phase III-B (1999)
- DELTA - TAL Lab Study A930005-1 (2003)
- ATIS SHHH Convention User Test (2005)
- Motorola SHHH Live Network Testing



Current C63.19 Ratings - Linear

Category		Telephone RF Parameters			
Near Field	AWF	E-Field Emissions (Peak)		H-Field Emissions (Peak)	
Category M1	0	199.5 – 354.8	V/m	0.60 – 1.07	A/m
	-5	149.6 – 266.1	V/m	0.45 – 0.80	A/m
Category M2	0	112.2 – 199.5	V/m	0.34 – 0.60	A/m
	-5	84.1 – 149.6	V/m	0.25 – 0.45	A/m
Category M3	0	63.1 – 112.2	V/m	0.19 – 0.34	A/m
	-5	47.3 – 84.1	V/m	0.14 – 0.25	A/m
Category M4	0	<63.1	V/m	<0.19	A/m
	-5	<47.3	V/m	<0.14	A/m



Proposed Ratings - Linear

Low Band

Category		Telephone RF Parameters < 1 GHz			
Near Field	AWF	E-Field Emissions		H-Field Emissions	
Category M1	0	631.0 to 1122.0	V/m	1.91 to 3.39	A/m
	-5	473.2 to 841.4	V/m	1.43 to 2.54	A/m
Category M2	0	354.8 to 631.0	V/m	1.07 to 1.91	A/m
	-5	266.1 to 473.2	V/m	0.80 to 1.43	A/m
Category M3	0	199.5 to 354.8	V/m	0.60 to 1.07	A/m
	-5	149.6 to 266.1	V/m	0.45 to 0.80	A/m
Category M4	0	< 199.5	V/m	< 0.60	A/m
	-5	< 149.6	V/m	< 0.45	A/m

High Band

Category		Telephone RF Parameters > 1 GHz			
Near Field	AWF	E-Field Emissions		H-Field Emissions	
Category M1	0	199.5 to 354.8	V/m	0.60 to 1.07	A/m
	-5	149.6 to 266.1	V/m	0.45 to 0.80	A/m
Category M2	0	112.2 to 199.5	V/m	0.34 to 0.60	A/m
	-5	84.1 to 149.6	V/m	0.25 to 0.45	A/m
Category M3	0	63.1 to 112.2	V/m	0.19 to 0.34	A/m
	-5	47.3 to 84.1	V/m	0.14 to 0.25	A/m
Category M4	0	<63.1	V/m	<0.19	A/m
	-5	<47.3	V/m	<0.14	A/m



Current Ratings - Logarithmic

Category		Telephone RF Parameters			
Near Field	AWF	E-Field Emissions (Peak)		H-Field Emissions (Peak)	
Category M1	0	46 – 51	dB (V/m)	-4.4 – 0.6	dB (A/m)
	-5	43.5 – 48.5	dB (V/m)	-6.9 – -1.9	dB (A/m)
Category M2	0	41 – 46	dB (V/m)	-9.4 – -4.4	dB (A/m)
	-5	38.5 – 43.5	dB (V/m)	-11.9 – -6.9	dB (A/m)
Category M3	0	36 – 41	dB (V/m)	-14.4 – -9.4	dB (A/m)
	-5	33.5 – 38.5	dB (V/m)	-16.9 – -11.9	dB (A/m)
Category M4	0	<36	dB (V/m)	<-14.4	dB (A/m)
	-5	<33.5	dB (V/m)	<-16.9	dB (A/m)



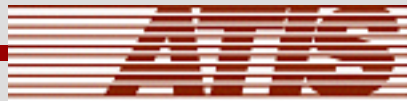
Proposed Ratings - Logarithmic

Low Band

Category	Telephone RF Parameters < 1 GHz				
	Near Field	AWF	E-Field Emissions	H-Field Emissions	
Category M1	0	56 to 61	dB (V/m)	+5.6 to +10.6	dB (A/m)
	-5	53.5 to 58.5	dB (V/m)	+3.1 to +8.1	dB (A/m)
Category M2	0	51 to 56	dB (V/m)	+0.6 to +5.6	dB (A/m)
	-5	48.5 to 53.5	dB (V/m)	-1.9 to +3.1	dB (A/m)
Category M3	0	46 to 51	dB (V/m)	-4.4 to +0.6	dB (A/m)
	-5	43.5 to 48.5	dB (V/m)	-6.9 to -1.9	dB (A/m)
Category M4	0	< 46	dB (V/m)	< -4.4	dB (A/m)
	-5	< 43.5	dB (V/m)	< -6.9	dB (A/m)

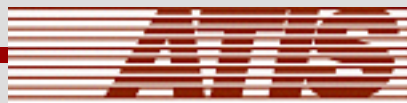
High Band

Category	Telephone RF Parameters > 1 GHz				
	Near Field	AWF	E-Field Emissions	H-Field Emissions	
Category M1	0	46 to 51	dB (V/m)	-4.4 to 0.6	dB (A/m)
	-5	43.5 to 48.5	dB (V/m)	-6.9 to -1.9	dB (A/m)
Category M2	0	41 to 46	dB (V/m)	-9.4 to -4.4	dB (A/m)
	-5	38.5 to 43.5	dB (V/m)	-11.9 to -6.9	dB (A/m)
Category M3	0	36 to 41	dB (V/m)	-14.4 to -9.4	dB (A/m)
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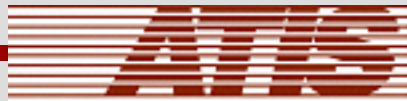
How to Quickly Implement Changes into C63.19

- Revise C63.19-2005 based on ANSI public comments by:
 - Cingular on Frequency Band differences
 - ATIS on Peak Power
 - Motorola on Interference Spectral Characteristics
 - SPEAG on Calibration/Position of Probes
- Request that C63 hold a stakeholder meeting in conjunction with its September meeting
- Re-ballot by December 2005



Short Term Summary

- FCC publication of a *Public Notice* to temporarily use:
 - M3 or higher rating for 1900 MHz band for all Dual Band wireless devices until the C63.19-2005 is updated
 - a minimum of M1 rating for wireless devices operating in the Low Band
- Support AISP.4-HAC efforts to revise C63.19-2005 based on public comments
- Support AISP.4-HAC efforts to bring stakeholders together in a meeting to solidify needed changes
- Support AISP.4-HAC efforts to plan on balloting by December 2005



Contact Information

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